SANT NANDLAL SMRITI VIDYA MANDIR, GHATSILA

YEARLY SYLLABUS OF PHYSICS (SCIENCE)

SESSION – 2025-2026

STD – X

MONTH	WORKING DAYS	TOPIC TO BE TAUGHT	ACTIVITY	LEARNING OUTCOME-/ASSESSMENT	VALUES & SKILLS IMPARTED	ASSESSMENT
APRIL	21	**Natural Phenomena** **Reflection** of light by curved surfaces; Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length, mirror formula (Derivation not required), magnification.	**1. TO DETERMINE THE FOCAL LENGTH OF CONCAVE MIRROR.**	The student will able to understand:- 1. the basic concepts of light and its properties 2. concept of reflection of light and laws of reflection of light 3. concepts of mirror – plane mirror, concave mirror, convex mirror and related terms. 4. difference between concave mirror and convex mirror . 5. terms related to mirrors like pole, principle focus, focal length. 5. concept of refraction of light and laws of refraction of light 6 . concepts of lenses – concave lens, convex lenses and related terms. 7. Numericals and other practical problems. **TOPICS OF ASSESSMENT-** **1.**REFLECTION OF LIGHT AND ASSOCIATED PHENOMENA 2.REFRACTION OF LIGHT AND ASSOCIATED PHENOMENA.	Development of scientific aptitude, experimental approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Lab Activity Test Viva Project
MAY	9	**Natural Phenomena (contd...)** **Refraction**; Laws of refraction, refractive index.	**2. TO DETERMINE THE FOCAL LENGTH OF CONVEX LENS.**			Lab Activity Test Viva Project
JUNE	11	**Natural Phenomena (contd...)** Refraction of light by spherical lens;Image formed by spherical lenses; Lens formula (Derivation not required); Magnification. Power of a lens;.	**3.TO TRACE THE PATH OF RAY PASSING THROUGH A RECTANGULAR GLASS SLAB**			Lab Activity Test Viva Project
JULY	26	**Human eye and the colourful world**	**4. TO TRACE THE PATH OF RAYS PASSING**	The student will able to understand:- 1. the internal structure of	Development of scientific aptitude, experimental	Lab Activity Test Viva

		Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses. Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life	**THROUGH A GLASS PRISM**	human eye 2. Functions of different parts of human eye 3. Defects of Human eye 4. methods of correcting the defects of human eye 5. Atmospheric refractions. 6. the phenomena caused due to atmospheric refraction. 7. Scattering of light and associated phenomena . 8. Dispersion pf light and its associated phenomena. The students will apply this knowledge in their day to day life. **TOPICS OF ASSESSMENT-** 1.STRUCTURE AND FUNCTIONS OF HUMAN EYE 2.DEFECTS OF HUMAN EYE AND ITS CORRECTIONS.	approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Project
AUGUST	**24**	**Natural Resources**: Sources of energy: Different forms of energy, conventional and non-conventional sources of energy: Fossil fuels, solar energy; biogas; wind, water and tidal energy; Nuclear energy. Renewable versus non-renewable sources of Energy.	**TERM 1** **PRACTICAL EXAMINATION**	The student will define different natural resources .The students will know the difference between conventional and non-conventional sources of energy. The students will distinguished between different types of natural resources. The students will know about energy crisis. Students will create a personal inventory of consumption of natural resources. **TOPICS OF ASSESSMENT-** 1.ATMOSPHERIC REFRACTIONS2. 2. DISPERSION OF LIGHT	Development of scientific aptitude, experimental approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Lab Activity Test Viva Project

				3.SCATTERING OF LIGHT.		
SEPTEMBER	**21**	**Revision for TERM 1** **TERM 1 EXAMINATION**				Lab Activity Test Viva Project
OCTOBER	**18**	**1)ELECTRICITY** Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends,	**5. VERIFICATION OF OHMS LAW BY PLOTTING V-I GRAPH**	After studying this chapter student will able to 1. illustrate the Ohm's Law 2. develop meaning of resistance using Ohm's law and experimentally list the factors which affect it. 3. test electrical conduction in a variety of materials and classify each material as a conductor or as a insulator 4. analyse circuit diagrams and calculate the effective resistance in series and in parallel combinations and its verification experimentally 5.0observe that heat is produce due to flow of current as per Joule's law of heating. 6. discover application of heating effect of electric current like fuse or heaters. 7. infer that appliances of higher power consume more energy. So to save energy , use the high power appliances should be minimized. 8. understand the practical application of series and parallel circuits in daily life. **TOPICS OF ASSESSMENT-** 1. OHMS LAW AND VERIFICATION	Development of scientific aptitude, experimental approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Lab Activity Test Viva Project

				2. COMBINATIONS OF REGISTORS. 3. JOULES LAWS OF HEATING.		
NOVEMBER	**23**	**ELECTRICITY (contd...)** Series combination of resistors parallel combination of resistors and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R. **Magnetic effects of current** : Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid;	**6. TO DETERMINE THE EQUIVALENT RESISTANCE OF SERIES COMBINATION OF RESISTORS.**	After studying the chapter student will be able to 1. conceptualize magnetic field lines and list their properties. 2. evaluate and understand the magnetic effect of current with the help of electromagnets. 3. interpret construction of Solenoid and electromagnet and their uses. 4. comprehend and apply right hand thumb rule to find the direction of magnetic field. 5. develop understanding, analyses and evaluate the study of force acting on a current carrying conductor. 6. understand and observe electromagnetic induction experimentally and its application. 7. comprehend induced current, state Fleming's Right hand rule and apply it to find direction of Induced current. **TOPICS OF ASSESSMENT-** 1. MAGNETIC EFFECTS OF CURRENT. 2. Electromagnetic induction.	Development of scientific aptitude, experimental approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Lab Activity Test Viva Project
DECEMBER	**19**	**Magnetic effects of current (contd...)** Force on current carrying conductor, Fleming's Left Hand Rule. Electromagnetic induction. Induced potential difference, Induced current. Fleming's Right Hand Rule, Direct current. Alternating current : frequency of AC. Advantage of AC over DC. Domestic electric circuits.	**7. TO DETERMINE THE EQUIVALENT RESISTANCE OF PARALLEL COMBINATION OF RESISTORS**			Lab Activity Test Viva Project

JANUARY	**22**	**Revision for TERM 2**	**TERM 2** **PRACTICAL EXAMINATION**			
FEBRUARY	**22**	**Revision for TERM 2** **PRE- BOARD EXAMIHATION**				

Subject Teacher : Gurbax Singh Sokhey **Principal**